Slip no – 1 / 14 Application / App name for all programs : ActivityLifecycle

1. Q1. Create a Simple Application which shows the Life Cycle of Activity.
2. Note : check activity in logcat option it shows all activity method running.
3. https://youtu.be/cB4lYP0MvGs?si=jF_GrQEUk5PIruE1
   MainActivity.java

```java
package com.example.activitylifecycle;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.util.Log;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Log.d("Lifecycle","oncreate method started");
    }

    @Override
    protected void onStart() {
        super.onStart();
        Log.d("Lifecycle","onstart method started");
    }

    @Override
    protected void onResume() {
        super.onResume();
        Log.d("Lifecycle","onresume method started");
    }

    @Override
    protected void onPause() {
        super.onPause();
        Log.d("Lifecycle","onpause method started");
    }

    @Override
    protected void onStop() {
        super.onStop();
        Log.d("Lifecycle","onstop method started");
    }

    @Override
    protected void onRestart() {
        super.onRestart();
        Log.d("Lifecycle","onrestart method started");
    }

    @Override
    protected void onDestroy() {
        super.onDestroy();
        Log.d("Lifecycle","ondestroy method started");
    }
}
```

slip no - 2

Q1. Create a Simple Application, which reads a positive number from the user and display its factorial value in another activity.

- Open your AndroidManifest.xml file and add the ResultActivity declaration within code.

```
<application
  <!-- Other application configurations -->
  <activity android:name=".ResultActivity"/>
</application>
```

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <EditText
        android:id="@+id/numberEditText"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:hint="Enter a positive number"
        android:inputType="number"
        app:layout_constraintBottom_toTopOf="@+id/submitBtn"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <Button
        android:id="@+id/submitBtn"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Submit"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java

```
package com.example.activitylifecycle;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    private EditText numberEditText;
    private Button submitBtn;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
```

```
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        numberEditText = findViewById(R.id.numberEditText);
        submitBtn = findViewById(R.id.submitBtn);

        submitBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String numberStr = numberEditText.getText().toString().trim();
                if (!numberStr.isEmpty()) {
                    int number = Integer.parseInt(numberStr);
                    if (number > 0) {
                        // Calculate factorial
                        long factorial = calculateFactorial(number);

                        // Start ResultActivity and pass factorial value
                        Intent intent = new Intent(MainActivity.this,
ResultActivity.class);
                        intent.putExtra("factorial", factorial);
                        startActivity(intent);
                    } else {
                        Toast.makeText(MainActivity.this, "Please enter a positive
number", Toast.LENGTH_SHORT).show();
                    }
                } else {
                    Toast.makeText(MainActivity.this, "Please enter a number",
Toast.LENGTH_SHORT).show();
                }
            }
        });
    }

    private long calculateFactorial(int n) {
        if (n <= 1)
            return 1;
        else
            return n * calculateFactorial(n - 1);
    }
}
```

activity_result.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".ResultActivity">

    <TextView
        android:id="@+id/resultTextView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Result"
        android:textSize="24sp"
        android:layout_marginTop="24dp"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

ResultActivity.java

```java
package com.example.activitylifecycle;

import android.os.Bundle;
import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

public class ResultActivity extends AppCompatActivity {

    private TextView resultTextView;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_result);

        resultTextView = findViewById(R.id.resultTextView);

        // Receive factorial value passed from MainActivity
        long factorial = getIntent().getLongExtra("factorial", 0);

        // Display factorial value
        resultTextView.setText("Factorial: " + factorial);
    }
}
```

Slip no - 3

Q1. Create an Android Application that will change color of the College Name on click ofPush Button and change the font size, font style of text view using xml.

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/collegeNameTextView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="S.M Joshi College Hadapsar"
        android:textSize="18sp"
        android:textStyle="normal"
        android:textColor="@android:color/black"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        android:layout_marginTop="16dp"/>

    <Button
        android:id="@+id/submitBtn"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Submit"
        app:layout_constraintTop_toBottomOf="@+id/collegeNameTextView"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        android:layout_marginTop="16dp"
        android:onClick="onSubmitButtonClick"/>

</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java

```
package com.example.activitylifecycle;


import android.graphics.Color;
import android.graphics.Typeface;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    private TextView collegeNameTextView;
    private Button submitBtn;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
```

```
        collegeNameTextView = findViewById(R.id.collegeNameTextView);
        submitBtn = findViewById(R.id.submitBtn);
    }

    public void onSubmitButtonClick(View view) {
        // Change text color to red
        collegeNameTextView.setTextColor(Color.RED);
        // Change font size to 24sp
        collegeNameTextView.setTextSize(24);
        // Change font style to bold
        collegeNameTextView.setTypeface(null, Typeface.BOLD);
    }
}
```

Slip no – 4

Q1. Create a Simple Application, that performs Arithmetic Operations. (Use constraint layout)

Activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <EditText
        android:id="@+id/number1EditText"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:hint="Enter first number"
        android:inputType="numberDecimal"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent" />

    <EditText
        android:id="@+id/number2EditText"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:hint="Enter second number"
        android:inputType="numberDecimal"
        app:layout_constraintTop_toBottomOf="@+id/number1EditText"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintBottom_toTopOf="@+id/addButton"
        android:layout_marginTop="16dp"/>

    <Button
        android:id="@+id/addButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Add"
        app:layout_constraintTop_toBottomOf="@+id/number2EditText"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        android:layout_marginTop="16dp"
        android:onClick="performAddition" />

    <!-- Similar buttons for subtraction, multiplication, and division -->

    <Button
        android:id="@+id/subButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="80dp"
        android:onClick="performSubtraction"
        android:text="sub"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.501"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/number2EditText" />

    <Button
        android:id="@+id/mulButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="136dp"
        android:onClick="performMultiplication"
```

```
        android:text="mul"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.501"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/number2EditText" />

    <Button
        android:id="@+id/divButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="200dp"
        android:onClick="performDivision"
        android:text="div"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.501"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/number2EditText" />

    <TextView
        android:id="@+id/resultTextView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="212dp"
        android:text="Result"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/addButton" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java

```
package com.example.activitylifecycle;

import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    private EditText number1EditText, number2EditText;
    private TextView resultTextView;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        number1EditText = findViewById(R.id.number1EditText);
        number2EditText = findViewById(R.id.number2EditText);
        resultTextView = findViewById(R.id.resultTextView);
    }

    public void performAddition(View view) {
        String num1Str = number1EditText.getText().toString();
        String num2Str = number2EditText.getText().toString();

        if (!num1Str.isEmpty() && !num2Str.isEmpty()) {
            double num1 = Double.parseDouble(num1Str);
            double num2 = Double.parseDouble(num2Str);

            double result = num1 + num2;
            resultTextView.setText("Result: " + result);
        } else {
```

```
            resultTextView.setText("Please enter both numbers");
        }
    }
    public void performSubtraction(View view) {
        String num1Str = number1EditText.getText().toString();
        String num2Str = number2EditText.getText().toString();

        if (!num1Str.isEmpty() && !num2Str.isEmpty()) {
            double num1 = Double.parseDouble(num1Str);
            double num2 = Double.parseDouble(num2Str);

            double result = num1 - num2;
            resultTextView.setText("Result: " + result);
        } else {
            resultTextView.setText("Please enter both numbers");
        }
    }
    public void performMultiplication(View view) {
        String num1Str = number1EditText.getText().toString();
        String num2Str = number2EditText.getText().toString();

        if (!num1Str.isEmpty() && !num2Str.isEmpty()) {
            double num1 = Double.parseDouble(num1Str);
            double num2 = Double.parseDouble(num2Str);

            double result = num1 * num2;
            resultTextView.setText("Result: " + result);
        } else {
            resultTextView.setText("Please enter both numbers");
        }
    }
    public void performDivision(View view) {
        String num1Str = number1EditText.getText().toString();
        String num2Str = number2EditText.getText().toString();

        if (!num1Str.isEmpty() && !num2Str.isEmpty()) {
            double num1 = Double.parseDouble(num1Str);
            double num2 = Double.parseDouble(num2Str);

            double result = num1 / num2;
            resultTextView.setText("Result: " + result);
        } else {
            resultTextView.setText("Please enter both numbers");
        }
    }

}
```

slip no - 5

Q1. Create an Android Application to accept two numbers and find power and Average. Display the result on the next activity on Button click

- Open your AndroidManifest.xml file and add the ResultActivity declaration within code.

```
<application
  <!-- Other application configurations -->
  <activity android:name=".ResultActivity"/>
</application>
```

activity_main.xml

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <EditText
        android:id="@+id/number1EditText"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:hint="Enter first number"
        android:inputType="numberDecimal"
        android:layout_marginTop="50dp"/>

    <EditText
        android:id="@+id/number2EditText"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:hint="Enter second number"
        android:inputType="numberDecimal"
        android:layout_below="@id/number1EditText"
        android:layout_marginTop="20dp"/>


    <Button
        android:id="@+id/calculateButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Calculate"
        android:layout_below="@id/number2EditText"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="20dp"
        android:onClick="calculateAndShowResult"/>


</RelativeLayout>
```

MainActivity.java

```
package com.example.activitylifecycle;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    private EditText number1EditText, number2EditText;
```

```
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        number1EditText = findViewById(R.id.number1EditText);
        number2EditText = findViewById(R.id.number2EditText);
    }

    public void calculateAndShowResult(View view) {
        double num1 = Double.parseDouble(number1EditText.getText().toString());
        double num2 = Double.parseDouble(number2EditText.getText().toString());

        double power = Math.pow(num1, num2);
        double average = (num1 + num2) / 2.0;

        Intent intent = new Intent(MainActivity.this, ResultActivity.class);
        intent.putExtra("power", power);
        intent.putExtra("average", average);
        startActivity(intent);
    }
}
```

ResultActivity.java

```
package com.example.activitylifecycle;
import android.content.Intent;
import android.os.Bundle;
import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

public class ResultActivity extends AppCompatActivity {

    private TextView powerTextView, averageTextView;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_result);

        powerTextView = findViewById(R.id.powerTextView);
        averageTextView = findViewById(R.id.averageTextView);

        Intent intent = getIntent();
        double power = intent.getDoubleExtra("power", 0);
        double average = intent.getDoubleExtra("average", 0);

        powerTextView.setText("Power: " + power);
        averageTextView.setText("Average: " + average);
    }
}
```

activity_result.xml

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".ResultActivity">

    <TextView
        android:id="@+id/powerTextView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Power:"
```

```
        android:textSize="20sp"
        android:layout_marginTop="50dp"/>

    <TextView
        android:id="@+id/averageTextView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Average:"
        android:textSize="20sp"
        android:layout_below="@id/powerTextView"
        android:layout_marginTop="20dp"/>

</RelativeLayout>
```

Slip no – 6

Q1. Create a Simple Application Which Send —Hello! message from one activity to another with help of Button (Use Intent).

- Open your AndroidManifest.xml file and add the ResultActivity declaration within code.

```
<application
  <!-- Other application configurations -->
  <activity android:name=".ResultActivity"/>
</application>
```

activity_main.xml

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <EditText
        android:id="@+id/messageEditText"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:hint="Enter message"
        android:layout_centerInParent="true"/>

    <Button
        android:id="@+id/sendButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Send"
        android:layout_below="@id/messageEditText"
        android:layout_centerHorizontal="true"
        android:onClick="sendMessage"/>

</RelativeLayout>
```

activity_result.xml

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".ResultActivity">

    <TextView
        android:id="@+id/messageTextView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textSize="24sp"
        android:layout_centerInParent="true"/>

</RelativeLayout>
```

MainActivity.java

```
package com.example.activitylifecycle;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;

import androidx.appcompat.app.AppCompatActivity;
```

```java
public class MainActivity extends AppCompatActivity {

    private EditText messageEditText;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        messageEditText = findViewById(R.id.messageEditText);
    }

    public void sendMessage(View view) {
        String message = messageEditText.getText().toString();

        Intent intent = new Intent(this, ResultActivity.class);
        intent.putExtra("message", message);
        startActivity(intent);
    }
}
```

ResultActivity.java

```java
package com.example.activitylifecycle;
import android.content.Intent;
import android.os.Bundle;
import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

public class ResultActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_result);

        TextView messageTextView = findViewById(R.id.messageTextView);

        Intent intent = getIntent();
        String message = intent.getStringExtra("message");

        messageTextView.setText(message);
    }
}
```

slip no – 7

Q1. Create an Android Application that Demonstrate Radio Button.

activity_main.xml

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/selectedOptionTextView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Selected Option:"
        android:layout_marginTop="20dp"/>

    <RadioGroup
        android:id="@+id/radioGroup"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@id/selectedOptionTextView"
        android:layout_centerHorizontal="true">

        <RadioButton
            android:id="@+id/radioButtonOption1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Option 1"/>

        <RadioButton
            android:id="@+id/radioButtonOption2"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Option 2"/>

        <RadioButton
            android:id="@+id/radioButtonOption3"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Option 3"/>
    </RadioGroup>

</RelativeLayout>
```

MainActivity.java

```
package com.example.activitylifecycle;
import android.os.Bundle;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    private TextView selectedOptionTextView;
    private RadioGroup radioGroup;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        selectedOptionTextView = findViewById(R.id.selectedOptionTextView);
```

```
        radioGroup = findViewById(R.id.radioGroup);

        // Set RadioGroup OnCheckedChangeListener
        radioGroup.setOnCheckedChangeListener(new RadioGroup.OnCheckedChangeListener()
{
            @Override
            public void onCheckedChanged(RadioGroup radioGroup, int checkedId) {
                // Find which RadioButton is checked by id
                RadioButton radioButton = findViewById(checkedId);

                // Display selected option
                selectedOptionTextView.setText("Selected Option: " +
radioButton.getText());
            }
        });
    }
}
```

slip no – 8

Q1. Create an Android App with Login Screen. On successful login, gives message go to next Activity (Without Using Database& use Table Layout).

- Open your AndroidManifest.xml file and add the ResultActivity declaration within code.

```
<application
  <!-- Other application configurations -->
  <activity android:name=".ResultActivity"/>
</application>
```

activity_main.xml

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TableLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:padding="20dp">

        <TableRow>
            <TextView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="Username:" />
            <EditText
                android:id="@+id/usernameEditText"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_weight="1"
                android:hint="Enter username" />
        </TableRow>

        <TableRow>
            <TextView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="Password:" />
            <EditText
                android:id="@+id/passwordEditText"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_weight="1"
                android:inputType="textPassword"
                android:hint="Enter password" />
        </TableRow>

        <TableRow>
            <Button
                android:id="@+id/loginButton"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="Login" />
        </TableRow>
    </TableLayout>

</RelativeLayout>
```

activity_result.xml

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".ResultActivity">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Welcome to the Next Activity!"
        android:layout_centerInParent="true"/>

</RelativeLayout>
```

MainActivity.java

```
package com.example.activitylifecycle;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    private EditText usernameEditText, passwordEditText;
    private Button loginButton;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        usernameEditText = findViewById(R.id.usernameEditText);
        passwordEditText = findViewById(R.id.passwordEditText);
        loginButton = findViewById(R.id.loginButton);

        loginButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String username = usernameEditText.getText().toString();
                String password = passwordEditText.getText().toString();

                // Dummy login check
                if (username.equals("admin") && password.equals("123")) {
                    // Successful login, navigate to next activity
                    Intent intent = new Intent(MainActivity.this,
ResultActivity.class);
                    startActivity(intent);
                } else {
                    // Invalid credentials, display error message
                    Toast.makeText(MainActivity.this, "Invalid username or password",
Toast.LENGTH_SHORT).show();
                }
            }
        });
    }
}
```

ResultActivity.java

```java
package com.example.activitylifecycle;
import android.os.Bundle;

import androidx.appcompat.app.AppCompatActivity;

public class ResultActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_result);
    }
}
```

slip no - 9

Q1. Write an Android application to accept two numbers from the user, and display them, but reject input if both numbers are greater than 10 and asks for two new numbers.

activity_main.xml

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <EditText
        android:id="@+id/firstNumberEdit"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:hint="Enter first number"
        android:inputType="number"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="50dp"/>

    <EditText
        android:id="@+id/secondNumberEdit"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:hint="Enter second number"
        android:inputType="number"
        android:layout_below="@id/firstNumberEdit"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="20dp"/>

    <Button
        android:id="@+id/submit"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Submit"
        android:layout_below="@id/secondNumberEdit"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="20dp"/>
</RelativeLayout>
```

MainActivity.java

```
package com.example.activitylifecycle;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    private EditText firstNumberEdit, secondNumberEdit;
    private Button submit ;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        // Initialize views
        firstNumberEdit = findViewById(R.id.firstNumberEdit);
```

```
        secondNumberEdit = findViewById(R.id.secondNumberEdit);
        submit = findViewById(R.id.submit);

        // Set click listener for submit button
        submit.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                // Get the numbers entered by the user
                int firstNumber =
Integer.parseInt(firstNumberEdit.getText().toString());
                int secondNumber =
Integer.parseInt(secondNumberEdit.getText().toString());

                // Check if both numbers are greater than 10
                if (firstNumber > 10 && secondNumber > 10) {
                    // Display a toast message to notify the user and prompt for new
numbers
                    Toast.makeText(MainActivity.this, "Both numbers should not be
greater than 10. Please enter new numbers.", Toast.LENGTH_SHORT).show();
                } else {
                    // Display the numbers entered by the user
                    Toast.makeText(MainActivity.this, "First number: " + firstNumber +
", Second number: " + secondNumber, Toast.LENGTH_SHORT).show();
                }
            }
        });
    }
}
```

slip no – 10

Q1. Create an Android Application that Demonstrate Switch and Toggle Button

activity_main.xml

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <Switch
        android:id="@+id/switchButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Switch"
        android:layout_marginTop="50dp"
        android:layout_centerHorizontal="true"/>

    <ToggleButton
        android:id="@+id/toggleButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textOff="Off"
        android:textOn="On"
        android:layout_below="@id/switchButton"
        android:layout_marginTop="20dp"
        android:layout_centerHorizontal="true"/>

</RelativeLayout>
```

MainActivity.java

```
package com.example.activitylifecycle;
import android.os.Bundle;
import android.widget.CompoundButton;
import android.widget.Switch;
import android.widget.Toast;
import android.widget.ToggleButton;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    private Switch switchButton;
    private ToggleButton toggleButton;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        switchButton = findViewById(R.id.switchButton);
        toggleButton = findViewById(R.id.toggleButton);

        switchButton.setOnCheckedChangeListener(new
CompoundButton.OnCheckedChangeListener() {
            @Override
            public void onCheckedChanged(CompoundButton buttonView, boolean isChecked)
{
                if (isChecked) {
                    // Switch is ON
                    Toast.makeText(MainActivity.this, "Switch is ON",
Toast.LENGTH_SHORT).show();
```

```
                } else {
                    // Switch is OFF
                    Toast.makeText(MainActivity.this, "Switch is OFF",
Toast.LENGTH_SHORT).show();
                }
            }
        });

        toggleButton.setOnCheckedChangeListener(new
CompoundButton.OnCheckedChangeListener() {
            @Override
            public void onCheckedChanged(CompoundButton buttonView, boolean isChecked)
{
                if (isChecked) {
                    // ToggleButton is ON
                    Toast.makeText(MainActivity.this, "ToggleButton is ON",
Toast.LENGTH_SHORT).show();
                } else {
                    // ToggleButton is OFF
                    Toast.makeText(MainActivity.this, "ToggleButton is OFF",
Toast.LENGTH_SHORT).show();
                }
            }
        });
    }
}
```

slip no – 11

Q.1 Create android application to change Font Size, Color and Font Family of String.

activity_main.xml

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="100dp"
        android:text="Change me!" />

    <SeekBar
        android:id="@+id/seekBarSize"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/textView"
        android:layout_marginTop="40dp"
        android:max="100" />

    <SeekBar
        android:id="@+id/seekBarColor"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/seekBarSize"
        android:layout_marginTop="45dp"
        android:max="255" />

    <Spinner
        android:id="@+id/fontFamilySpinner"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@id/seekBarColor"
        android:layout_alignParentEnd="true"
        android:layout_marginTop="54dp"
        android:layout_marginEnd="146dp" />

</RelativeLayout>
```

MainActivity.java

```
package com.example.activitylifecycle;
import android.graphics.Color;
import android.graphics.Typeface;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.SeekBar;
import android.widget.Spinner;
import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    private TextView textView;
```

```
    private SeekBar seekBarSize, seekBarColor;
    private Spinner fontFamilySpinner;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        textView = findViewById(R.id.textView);
        seekBarSize = findViewById(R.id.seekBarSize);
        seekBarColor = findViewById(R.id.seekBarColor);
        fontFamilySpinner = findViewById(R.id.fontFamilySpinner);

        // Set up font size seek bar
        seekBarSize.setOnSeekBarChangeListener(new SeekBar.OnSeekBarChangeListener() {
            @Override
            public void onProgressChanged(SeekBar seekBar, int progress, boolean
fromUser) {
                textView.setTextSize(progress);
            }

            @Override
            public void onStartTrackingTouch(SeekBar seekBar) {}

            @Override
            public void onStopTrackingTouch(SeekBar seekBar) {}
        });

        // Set up font color seek bar
        seekBarColor.setOnSeekBarChangeListener(new SeekBar.OnSeekBarChangeListener() {
            @Override
            public void onProgressChanged(SeekBar seekBar, int progress, boolean
fromUser) {
                textView.setTextColor(Color.rgb(progress, progress, progress));
            }

            @Override
            public void onStartTrackingTouch(SeekBar seekBar) {}

            @Override
            public void onStopTrackingTouch(SeekBar seekBar) {}
        });

        // Set up font family spinner
        ArrayAdapter<CharSequence> adapter = ArrayAdapter.createFromResource(this,
                R.array.font_families, android.R.layout.simple_spinner_item);
        adapter.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);
        fontFamilySpinner.setAdapter(adapter);

        fontFamilySpinner.setOnItemSelectedListener(new
AdapterView.OnItemSelectedListener() {
            @Override
            public void onItemSelected(AdapterView<?> parent, View view, int position,
long id) {
                String fontFamily = parent.getItemAtPosition(position).toString();
                Typeface typeface = Typeface.DEFAULT; // Default typeface

                switch (fontFamily) {
                    case "Sans-serif":
                        typeface = Typeface.SANS_SERIF;
                        break;
                    case "Serif":
                        typeface = Typeface.SERIF;
                        break;
                    case "Monospace":
                        typeface = Typeface.MONOSPACE;
                        break;
```

```
                    // Add more font families as needed
                }

                textView.setTypeface(typeface);
            }

            @Override
            public void onNothingSelected(AdapterView<?> parent) {}
        });
    }
}
```

strings.xml

add into resources tag of strgins.xml file these file already include into value folder

```
<string-array name="font_families">
    <item>Sans-serif</item>
    <item>Serif</item>
    <item>Monospace</item>
</string-array>
```

Slip no – 12

Q1.Create a Simple Application Which Send ―Hi‖ message from one activity to another with help of Button (Use Intent).

- Open your AndroidManifest.xml file and add the ResultActivity declaration within code.

```
<application
  <!-- Other application configurations -->
  <activity android:name=".ResultActivity"/>
</application>
```

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <Button
        android:id="@+id/sendButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Send Hi Message"
        android:layout_centerInParent="true"/>

</RelativeLayout>
```

MainActivity.java

```
package com.example.activitylifecycle;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        Button sendButton = findViewById(R.id.sendButton);
        sendButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                // Create an Intent to start the SecondActivity
                Intent intent = new Intent(MainActivity.this, ResultActivity.class);
                // Put extra data (message) with the intent
                intent.putExtra("message", "Hi");
                // Start the SecondActivity
                startActivity(intent);
            }
        });
    }
}
```

ResultActivity.java

```java
package com.example.activitylifecycle;
import android.os.Bundle;
import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

public class ResultActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_result);

        // Get the message from the intent
        String message = getIntent().getStringExtra("message");

        // Display the message in TextView
        TextView messageTextView = findViewById(R.id.messageTextView);
        messageTextView.setText(message);
    }
}
```

activity_result.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".ResultActivity">

    <TextView
        android:id="@+id/messageTextView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textSize="24sp"
        android:layout_centerInParent="true"/>

</RelativeLayout>
```

Slip no – 13

Activity_main.xml

```
<ScrollView xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="vertical">

        <!-- Buttons inside ScrollView -->

        <Button
            android:id="@+id/button1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="30dp"
            android:text="Button 1" />

        <Button
            android:id="@+id/button2"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="30dp"
            android:text="Button 2" />
        <Button
            android:id="@+id/button3"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="30dp"
            android:text="Button 3" />
        <Button
            android:id="@+id/button4"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="30dp"
            android:text="Button 4" />
        <Button
            android:id="@+id/button5"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="30dp"
            android:text="Button 5" />
        <Button
            android:id="@+id/button6"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="30dp"
            android:text="Button 6" />
        <Button
            android:id="@+id/button7"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="30dp"
            android:text="Button 7" />
        <Button
            android:id="@+id/button8"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="30dp"
            android:text="Button 8" />
        <Button
            android:id="@+id/button9"
            android:layout_width="wrap_content"
```

```
            android:layout_height="wrap_content"
            android:layout_margin="30dp"
            android:text="Button 9" />
        <Button
            android:id="@+id/button10"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="30dp"
            android:text="Button 10" />

        <!-- Add more buttons as needed -->

    </LinearLayout>

</ScrollView>
```

Slip no - 15 **Slip no 14 and 1 same**

Q1. Design following-add a border to an Android Layout.

Add customeborder.xml file into the drawable folder

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#000000"
    android:padding="10dp">

    <LinearLayout
        android:orientation="horizontal"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:background="@drawable/customborder">

        <TextView
            android:layout_width="356dp"
            android:layout_height="697dp"
            android:background="#A00000FF"
            android:gravity="center_vertical|center_horizontal"
            android:text="Hello World!"
            android:textColor="#ffffff"
            android:textSize="40sp" />
    </LinearLayout>

</RelativeLayout>
```

Customborder.xml Add customeborder.xml file into the drawable folder

```
<?xml version="1.0" encoding="utf-8"?>
<shape xmlns:android="http://schemas.android.com/apk/res/android"
android:shape="rectangle">
    <corners android:radius="20dp"/>
    <padding android:left="20dp" android:right="20dp" android:top="20dp"
android:bottom="20dp"/>
    <solid android:color="#CCCCCC"/>
</shape>
```

Slip no – 16

Q1. Create an Android App, it reads the Students Details (Name, Surname, Class, Gender, Hobbies, Marks) and display the all information in another activity in table format on click of Submit button.

- Open your AndroidManifest.xml file and add the ResultActivity declaration within code.

```
<application
  <!-- Other application configurations -->
  <activity android:name=".ResultActivity"/>

</application>
```

activity_main.xml

```
<!-- activity_main.xml -->
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <!-- Name EditText -->
    <EditText
        android:id="@+id/editTextName"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Name"
        android:layout_margin="16dp" />

    <!-- Surname EditText -->
    <EditText
        android:id="@+id/editTextSurname"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Surname"
        android:layout_below="@id/editTextName"
        android:layout_margin="16dp" />

    <!-- Class EditText -->
    <EditText
        android:id="@+id/editTextClass"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Class"
        android:layout_below="@id/editTextSurname"
        android:layout_margin="16dp" />

    <!-- Gender EditText -->
    <EditText
        android:id="@+id/editTextGender"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Gender"
        android:layout_below="@id/editTextClass"
        android:layout_margin="16dp" />

    <!-- Hobbies EditText -->
    <EditText
        android:id="@+id/editTextHobbies"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Hobbies"
        android:layout_below="@id/editTextGender"
```

```
        android:layout_margin="16dp" />

    <!-- Marks EditText -->
    <EditText
        android:id="@+id/editTextMarks"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Marks"
        android:layout_below="@id/editTextHobbies"
        android:layout_margin="16dp" />

    <!-- Submit Button -->
    <Button
        android:id="@+id/buttonSubmit"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@id/editTextMarks"
        android:layout_alignParentEnd="true"
        android:layout_marginTop="41dp"
        android:layout_marginEnd="162dp"
        android:text="Submit" />

</RelativeLayout>
```

MainActivity.java

```
package com.example.activitylifecycle;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    private EditText editTextName, editTextSurname, editTextClass, editTextGender,
editTextHobbies, editTextMarks;
    private Button buttonSubmit;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        // Initialize views
        editTextName = findViewById(R.id.editTextName);
        editTextSurname = findViewById(R.id.editTextSurname);
        editTextClass = findViewById(R.id.editTextClass);
        editTextGender = findViewById(R.id.editTextGender);
        editTextHobbies = findViewById(R.id.editTextHobbies);
        editTextMarks = findViewById(R.id.editTextMarks);
        buttonSubmit = findViewById(R.id.buttonSubmit);

        // Set click listener for submit button
        buttonSubmit.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                // Get student details
                String name = editTextName.getText().toString();
                String surname = editTextSurname.getText().toString();
                String studentClass = editTextClass.getText().toString();
                String gender = editTextGender.getText().toString();
                String hobbies = editTextHobbies.getText().toString();
                String marks = editTextMarks.getText().toString();
```

```
                // Start DisplayDetailsActivity and pass student details
                Intent intent = new Intent(MainActivity.this, ResultActivity.class);
                intent.putExtra("name", name);
                intent.putExtra("surname", surname);
                intent.putExtra("class", studentClass);
                intent.putExtra("gender", gender);
                intent.putExtra("hobbies", hobbies);
                intent.putExtra("marks", marks);
                startActivity(intent);
            }
        });
    }
}
```

ResultActivity.java

```
package com.example.activitylifecycle;
import android.os.Bundle;
import android.widget.TableLayout;
import android.widget.TableRow;
import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

public class ResultActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_result);

        // Retrieve student details from intent
        String name = getIntent().getStringExtra("name");
        String surname = getIntent().getStringExtra("surname");
        String studentClass = getIntent().getStringExtra("class");
        String gender = getIntent().getStringExtra("gender");
        String hobbies = getIntent().getStringExtra("hobbies");
        String marks = getIntent().getStringExtra("marks");

        // Find TableLayout in the layout
        TableLayout tableLayout = findViewById(R.id.tableLayout);

        // Add rows to the TableLayout dynamically
        addRow(tableLayout, "Name : ", name);
        addRow(tableLayout, "Surname : ", surname);
        addRow(tableLayout, "Class : ", studentClass);
        addRow(tableLayout, "Gender : ", gender);
        addRow(tableLayout, "Hobbies : ", hobbies);
        addRow(tableLayout, "Marks : ", marks);
    }

    // Method to add a row to the TableLayout
    private void addRow(TableLayout tableLayout, String label, String value) {
        // Create a new row
        TableRow row = new TableRow(this);

        // Create text views for label and value
        TextView labelTextView = new TextView(this);
        labelTextView.setText(label);
        TextView valueTextView = new TextView(this);
        valueTextView.setText(value);

        // Add text views to the row
        row.addView(labelTextView);
        row.addView(valueTextView);
```

```
        // Add the row to the TableLayout
        tableLayout.addView(row);
    }
}
```

activity_result.xml

```
<!-- activity_display_details.xml -->
<ScrollView xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent">

    <TableLayout
        android:id="@+id/tableLayout"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:padding="16dp">

        <!-- Table rows will be added dynamically -->

    </TableLayout>

</ScrollView>
```

Slip no – 17

Q1. Write an android code to make phone call using Intent.

Add Call Permission in AndroidManifest.xml file

<uses-permission android:name="android.permission.CALL_PHONE" />

<application

<!-- Your application settings -->

</application>

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:layout_margin="16dp"
    tools:context=".MainActivity" >

    <Button
        android:onClick="call"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Call" />

</RelativeLayout>
```

MainActivity.java

```
package com.example.activitylifecycle;

import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.view.View;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }

    public void call(View view) {
        Intent dialIntent = new Intent(Intent.ACTION_DIAL);
        dialIntent.setData(Uri.parse("tel:1234567890"));
        startActivity(dialIntent);
    }
}
```

slip no – 18

Q1. Create an Android Application that Demonstrate Alert Dialog Box

activity_main.xml

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <Button
        android:id="@+id/showDialogButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Show Dialog"
        android:layout_centerInParent="true" />

</RelativeLayout>
```

MainActivity.java

```
package com.example.activitylifecycle;
import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;
import android.content.DialogInterface;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        Button showDialogButton = findViewById(R.id.showDialogButton);
        showDialogButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                // Show the alert dialog
                showAlert();
            }
        });
    }

    private void showAlert() {
        AlertDialog.Builder builder = new AlertDialog.Builder(this);
        builder.setTitle("Alert Dialog");
        builder.setMessage("This is a demo of Alert Dialog Box.");
        builder.setPositiveButton("OK", new DialogInterface.OnClickListener() {
            @Override
            public void onClick(DialogInterface dialog, int which) {
                // Do something when the OK button is clicked
            }
        });
        builder.setNegativeButton("Cancel", new DialogInterface.OnClickListener() {
            @Override
            public void onClick(DialogInterface dialog, int which) {
                // Do something when the Cancel button is clicked
            }
        });
```

```
        AlertDialog dialog = builder.create();
        dialog.show();
    }
}
```

slip no – 19

Q1. Create an Android Application that on/off the bulb using Toggle Button.

activity_main.xml

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <ToggleButton
        android:id="@+id/toggleButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textOff="OFF"
        android:textOn="ON"
        android:checked="false"
        android:layout_centerInParent="true" />

</RelativeLayout>
```

MainActivity.java

```
package com.example.activitylifecycle;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.CompoundButton;
import android.widget.ToggleButton;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        // Initialize the ToggleButton
        ToggleButton toggleButton = findViewById(R.id.toggleButton);

        // Set a listener for the ToggleButton
        toggleButton.setOnCheckedChangeListener(new
CompoundButton.OnCheckedChangeListener() {
            @Override
            public void onCheckedChanged(CompoundButton buttonView, boolean isChecked)
{
                // Change the state of the bulb based on the ToggleButton state
                if (isChecked) {
                    // Bulb is ON
                    // Perform actions to turn on the bulb (e.g., change image, send
signal)
                    // For demonstration, you can change background color of the layout

getWindow().getDecorView().setBackgroundColor(getResources().getColor(android.R.color.h
olo_blue_light));
                } else {
                    // Bulb is OFF
                    // Perform actions to turn off the bulb (e.g., change image, send
signal)
                    // For demonstration, you can change background color of the layout

getWindow().getDecorView().setBackgroundColor(getResources().getColor(android.R.color.w
```

```
hite));
                    }
                }
            });

    }
}
```

slip no – 20

Q1. Create Android Program to Change the Image on the Screen.

- Add two image in drawable folder image1, image2 name .png format

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <ImageView
        android:id="@+id/imageView"
        android:layout_width="348dp"
        android:layout_height="270dp"
        android:layout_alignParentStart="true"
        android:layout_alignParentEnd="true"
        android:layout_marginStart="49dp"
        android:layout_marginEnd="13dp"
        android:scaleType="centerCrop"
        android:src="@drawable/image1" />

    <Button
        android:id="@+id/changeImageButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/imageView"
        android:layout_alignParentStart="true"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginStart="150dp"
        android:layout_marginTop="66dp"
        android:layout_marginEnd="120dp"
        android:layout_marginBottom="347dp"
        android:onClick="changeImage"
        android:text="Change Image" />

</RelativeLayout>
```

MainActivity.java

```
package com.example.activitylifecycle;
import android.os.Bundle;
import android.view.View;
import android.widget.ImageView;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    private ImageView imageView;
    private int currentImageIndex = 1; // Initially set to display image1

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        imageView = findViewById(R.id.imageView);
    }

    public void changeImage(View view) {
```

```
        // Toggle between image1 and image2
        if (currentImageIndex == 1) {
            imageView.setImageResource(R.drawable.image2);
            currentImageIndex = 2;
        } else {
            imageView.setImageResource(R.drawable.image1);
            currentImageIndex = 1;
        }
    }
}
```